Collecting Functional Classification Data

Transportation Planning Branch		Approved: October 30, 2008 Version 1

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Purpose

The purpose of this procedure is to describe the process for collecting Functional Classification data during the needs assessment step of the Comprehensive Transportation Planning (CTP) process.

Background

Functional classification is a federally defined process by which streets and highways are grouped into classes, according to the character of service they are intended to provide. The classes are as follows:

- **Principal Arterial** – The principal arterial system should serve the major centers of activity of a metropolitan area, the highest traffic volume corridors, and the longest trip desires; and should carry a high proportion of the total urban area travel on a minimum of mileage. Principal Arterials should be further divided into three subcategories: Interstates; Other Freeways and Expressways; and Other Principal Arterials. In rural areas, only Interstate and Other Principal Arterial classifications are used.
- **Minor Arterial** – The minor arterial street system should interconnect with and augment the urban principal arterial system. This street system should also provide service to trips of moderate length at a somewhat lower level of travel mobility than principal arterials.
- **Collector** – The collector street system provides land access service and traffic circulation within residential neighborhoods, commercial and industrial areas. This street system differs from the arterial system described above. Facilities on the collector system may penetrate residential neighborhoods, thus distributing trips from the arterials through the area to the ultimate destination. In rural areas, the collectors are further divided into major and minor collectors.
- **Local** – The local street system consists of all roads not defined as arterials or collectors.

The functional classification system is used as a basis for developing the initial highway network for the CTP study area.

Responsibility

The Project Engineer (PE) is responsible for:

- Accessing and printing the Functional Classification Maps
- Accessing and clipping the functional classification shapefile (located at: S:\Shared\GIS Data\NC GIS Statewide Data\Latest GIS Data\FunctionalClass\)

Policy, Regulatory, and Legal Requirements

None

Scheduling and Time Constraints

The PE shall collect functional classification data after the Planning Area Boundary (PAB) has been established.

Procedures

Procedure Input – Planning Area Boundary, Federal Functional Classification maps.

Procedure Output – Functional classification data for the CTP study area.

The PE shall follow the steps outlined below to collect the necessary functional classification data.

Step	Action
1	*Functional Classification Maps* • The PE accesses the Functional Classification Maps (both rural and urban) • The PE selects and prints the appropriate maps.
2	*Functional Classification Shapefiles* • Open ArcMap • From the dialog box that pops up, either select *A New Empty Map* or *An Existing Map*. If you are working from an existing map, select the appropriate map. Confirm that the *Immediately Add Data* box is checked. Click *OK*. • The Add Data dialog box pops up. Browse to select the functional classification shapefile (.shp) located at: S:\Shared\GIS Data\NC GIS Statewide Data\Latest GIS Data\FunctionalClass\. • Click on the *Add Data* icon (plus sign on yellow background) on the toolbar and the Add Data box will appear. Browse the hard drive and select your previously developed PAB shapefile. Click *Add*. • Click on the ArcToolbox icon (red toolbox) on the toolbar. A new window opens in the middle of the screen. • In ArcToolbox window, expand *Analysis Tools*, expand *Extract*, and double click *Clip*. • The Clip box pops up. For *Input Features*, choose the functional classification file (this is the layer you want to clip). For Clip Features, choose your PAB file (this indicates what to use as the "cookie-cutter"). For *Output Feature Class*, click the folder to the right of text field, browse to the location on your hard drive where the new clipped file will be stored and insert the name of your new file (for example: D:\\CTP\BrunswickCounty\Mapping\Brunswick_FuncClass.shp).

	Leave *XY Tolerance* blank. Click *OK*. • A Clip status window will appear as the process is running and you should see an Executed Successfully message when the process is complete. Close the Clip status window. Close the ArcToolbox window. • In the window on the left, the new file that was created has been added. You now have a new shapefile of functionally classified roads for your study area that can be used in any map.

Warnings and Precautions

None

Resources and Tools

- ArcMap
- Functional Classification Maps
- Functional Classification Shapefile (located at: S:\Shared\GIS Data\NC GIS Statewide Data\Latest GIS Data\FunctionalClass\)

Contacts

- For suggestions to change this procedure contact: Earlene Thomas (919) 733-4705 ext. 47
- For questions about performing this procedure contact: Shannon Ransom (919) 733-4705 ext. 68

Glossary

For a complete listing of terms, definitions and acronyms, go to the Master Glossary.

User Access

Restricted NCDOT, FHWA, MPO, RPO, Consultants, etc.

Flowchart

None